

REMARKS

I. STATUS OF THE CLAIMS

Claims 2, 3 and 15-20 are canceled herein.

The remaining claims are amended.

New claims 21 and 22 are added.

Support for the claim amendments and new claims is found, for example, in FIG. 9 and the disclosure on page 29, line 10, through page 32, line 17, of the specification.

In view of the above, it is respectfully submitted that claims 1, 4-14 and 21-22 are currently pending.

II. OBJECTION TO THE SPECIFICATION

The Examiner objects to the specification, indicating that the specification is unclear.

However, it is respectfully submitted that the wording in the specification is clear when the drawings are viewed in association with the description in the specification.

For example, the Examiner refers to paragraph [0026] of the specification. It appears that the Examiner is referring to the paragraph number in the application publication corresponding to this application. It is respectfully submitted that paragraph [0026] is clear when referring, for example, to FIG. 9.

In view of the above, it is respectfully submitted that the rejection is overcome.

III. REJECTION OF CLAIMS 1-20 UNDER 35 USC 112, FIRST PARAGRAPH

The claims are amended to overcome the rejection.

IV. REJECTION OF CLAIMS 1-20 UNDER 35 USC 112, SECOND PARAGRAPH

The claims are amended to overcome the rejection.

V. PRIOR ART REJECTIONS

New claim 21 recites an apparatus comprising (a) a Raman amplification medium through which a signal light travels; (b) a rare-earth-doped optical amplification medium through which the signal light travels after traveling through the Raman amplification medium; and (c) a fiber grating positioned between the Raman amplification medium and the rare-earth-doped optical amplification medium.

As recited, for example, in claim 21, a first pump light which includes pump light at a

specific wavelength is provided to the Raman amplification medium so that the first pump light copropagates through the Raman amplification medium with the signal light and is thereafter transmitted through the fiber grating to then copropagate through the rare-earth-doped optical amplification medium with the signal light.

As recited, for example, in claim 21, a second pump light which includes pump light at a plurality of wavelengths including the specific wavelength is provided to the fiber grating so that the second pump light at wavelengths other than the specific wavelength is transmitted through the fiber grating to the Raman amplification medium and then counterpropagates through the Raman amplification medium as the signal light travels through the Raman amplification medium.

As recited, for example, in claim 21, the fiber grating reflects the second pump light at the specific wavelength provided to the fiber grating so that the reflected second pump light copropagates through the rare-earth-doped optical amplification medium with the signal light.

As recited, for example, in claim 21, the apparatus thereby causes the signal light to be Raman amplified as the signal light travels through the Raman amplification medium in accordance with the first pump light provided to the Raman amplification medium and the second pump light transmitted to the Raman amplification medium by the fiber grating.

As recited, for example, in claim 21, the apparatus thereby causes the signal light to be amplified as the signal light travels through the rare-earth-doped optical amplification medium in accordance with the first pump light transmitted to the rare-earth-doped optical amplification medium through the fiber grating and the second pump light reflected by the fiber grating.

See, for example, FIG. 9 and the disclosure on page 29, line 10, through page 32, line 17, of the specification.

Independent claim 1 is amended to recite somewhat similar features as claim 21.

It is respectfully submitted that none of the cited references, taken individually or in combination, discloses or suggest the present invention as recited, for example, in new claim 21, or in amended claim 1. See also new claim 22.

In view of the above, it is respectfully submitted that the rejections are overcome.

## VI. CONCLUSION

In view of the above, it is respectfully submitted that the application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

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If any further fees are required in connection with the filing of this response, please charge such fees to our Deposit Account No. 19-3935.

Respectfully submitted,

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